

# **PHENIX PLANNING**

Technical Support Plan for 2006  
Don Lynch

- Recover from water in dry air system/ MuTr repairs -December '05 [DONE]
- MPC South - January '06 [DONE]
- Prepare for Run 6 - January-February '06
- Run 6 - February-June '06
- HBD Test Installation - May '06
- TOF West - July '06
- RXNP - August '06
- HBD - August '06
- MPC North - September '06
- Prepare for run 7 - September-October '06
- Run 7 - November '06 - June '07

**PHENIX Technical Support 2006**

# **TOF W Installation**



**TOF W  
Installation  
Fixture and  
access platform**

*Ready to install  
detectors when  
they arrive.  
Installation to be  
delayed until  
shutdown 2006 if  
run starts in Feb.  
2006 as now  
planned.*

PHENIX Technical Support 2006

# TOF W Fabrication



M  
R  
P  
C

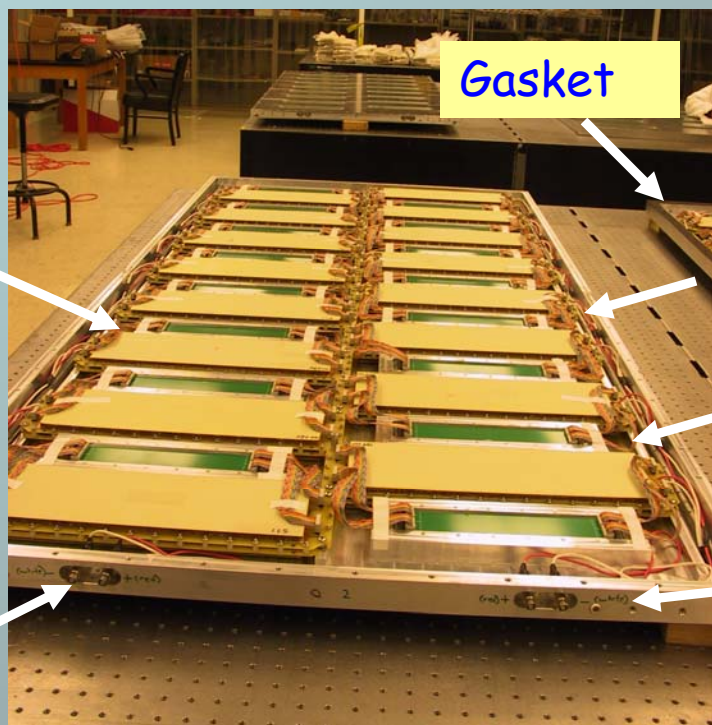
Feedthru boards

PHENIX

MRPC's



## $\frac{1}{2}$ box with detectors



signal cables

Gasket

HV bus

Gas pipe

HV connectors

Holes for Installation/  
mounting wheels

PHENIX Technical Support 2006

# TOF W Assembly



## HBD Gas Supply



HBD transparency  
monitor hutch ready to  
install instrumentation  
when it arrives



TOF/HBD Gas Shared  
Flow Control Rack HBD  
to be single pass for  
Run 6



Electronics rack  
In Gas Mixing  
House



## HBD & TOF W Gas Systems



Gas Pad  
Location for  
CF<sub>4</sub> bottles

Scales to monitor  
bottle contents



R134A Gas  
Bottle Location



## HBD Electronics



HBD low voltage  
and signal  
electronics rack  
(to be located  
on east-central  
pedestal)

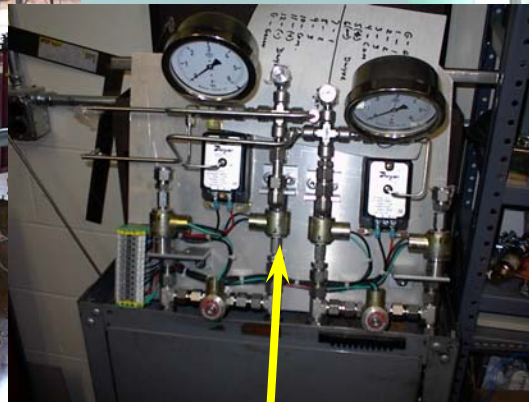


HBD High  
Voltage Rack  
(to be located  
on Bridge)

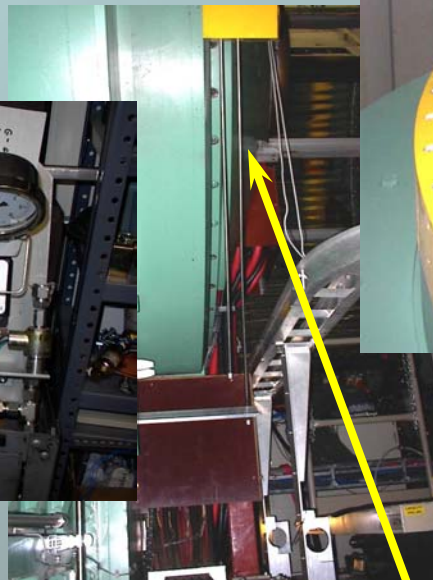
## HBD Gas Supply



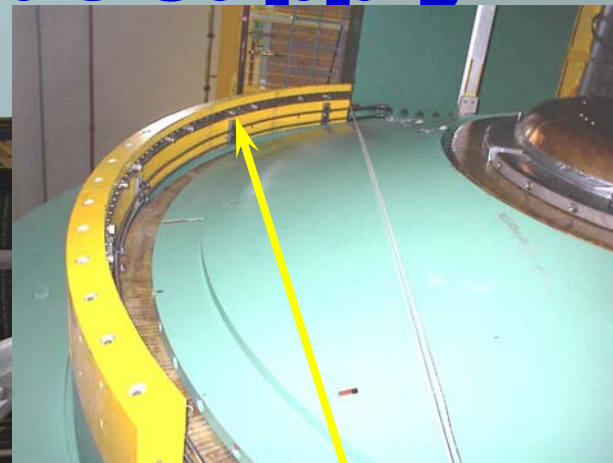
Gas Pad  
Location for  
CF4 bottles



HBD Gas flow panel  
Waiting for components  
Then to be installed in IR

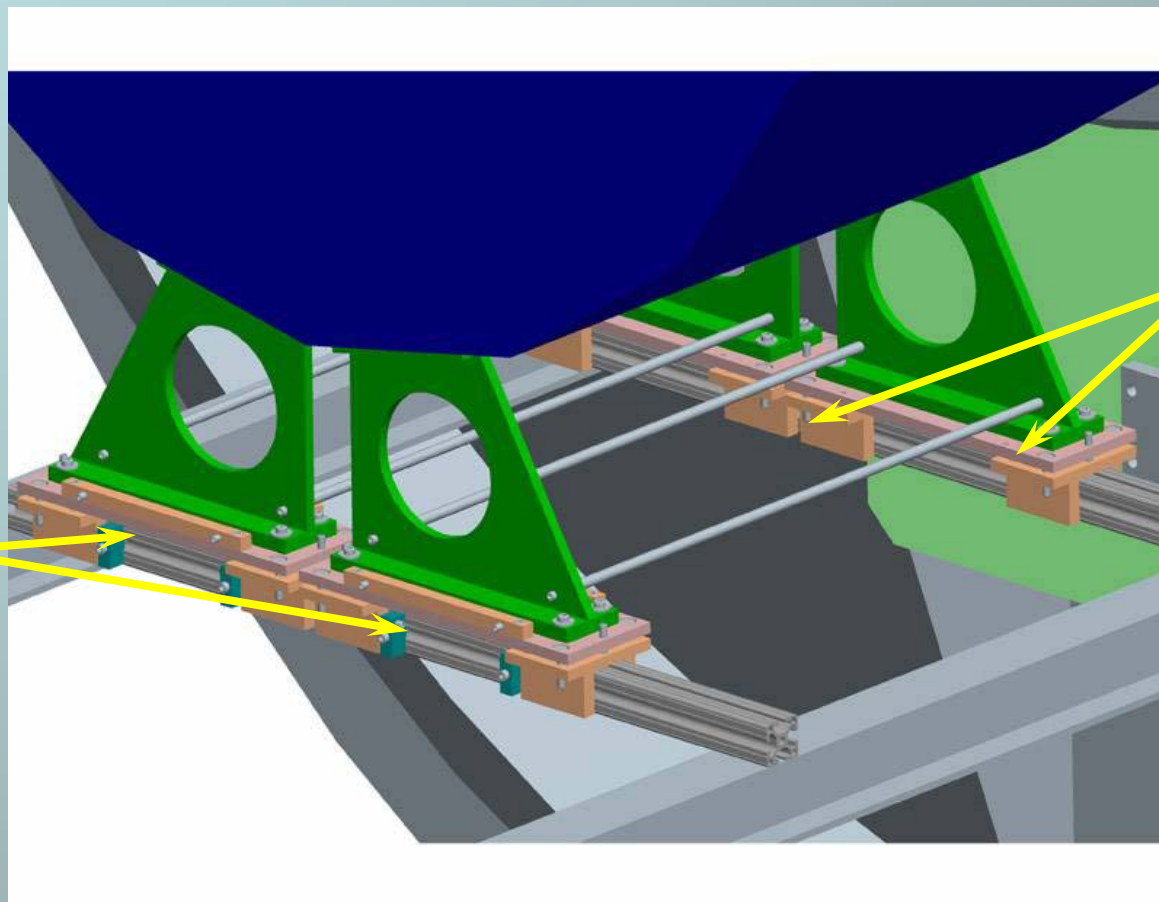


*Piping nearly complete. Flexible  
lines will connect to detector*



Stainless Gas Lines to  
top of CM

## HBD Mechanical Support



HBD Support  
X, Y, Z  
adjustments on  
this side

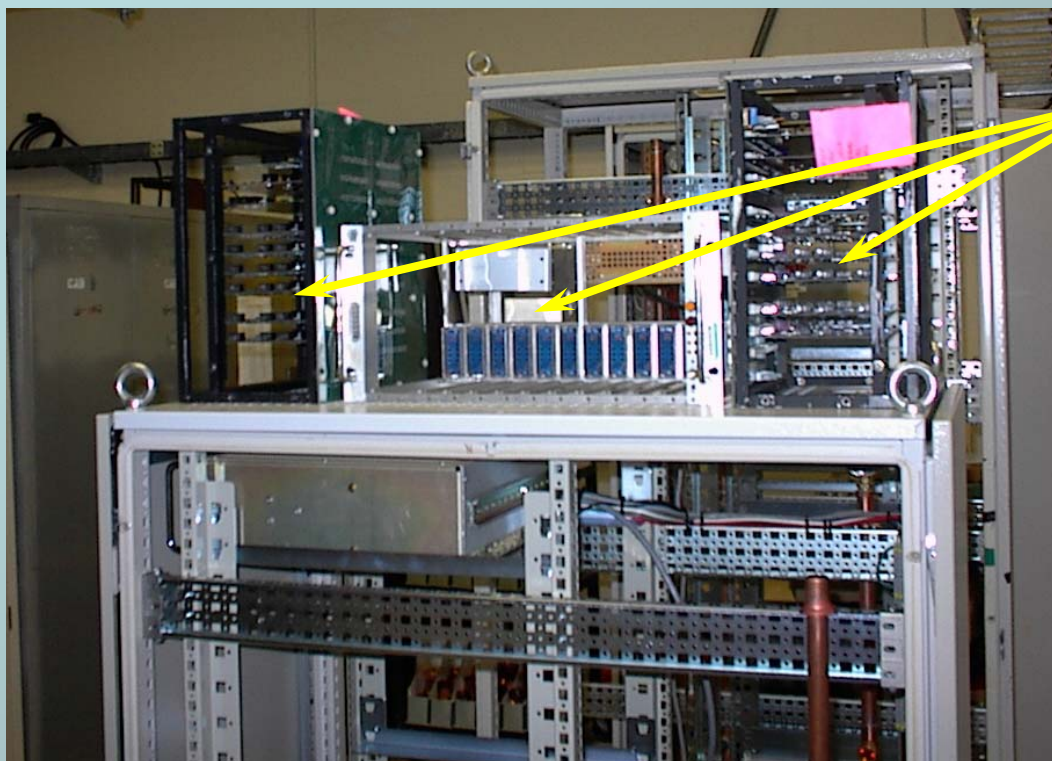
HBD Support  
X, Y  
adjustments on  
this side

*Design of details  
complete ready  
for fabrication.*

*Adapters needed  
for possible  
installation of  
prototype*



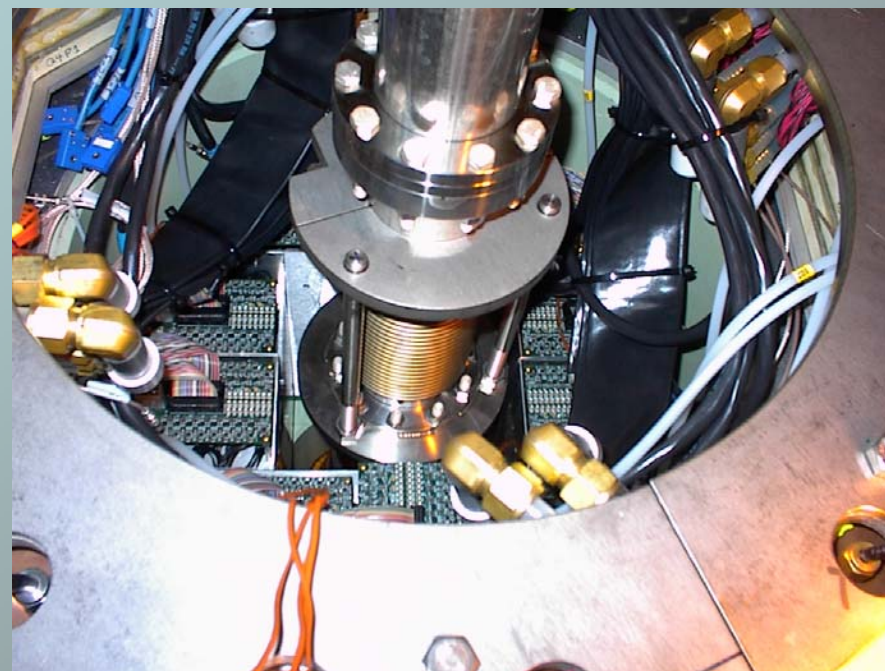
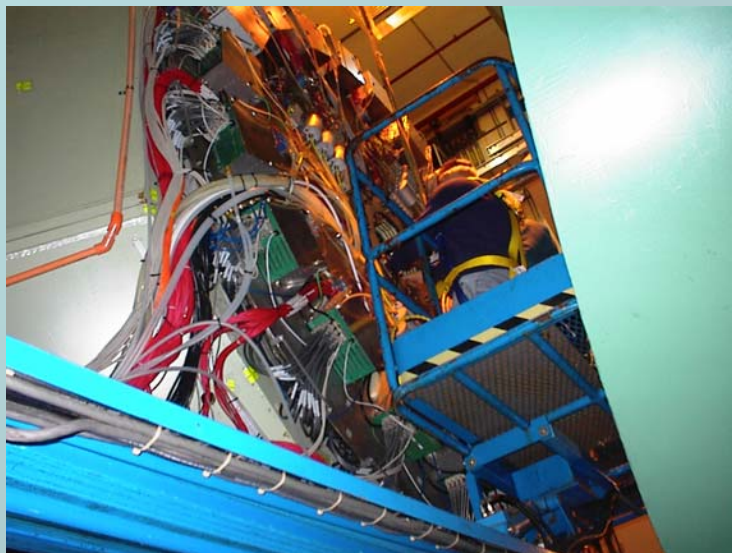
## MPC Installation



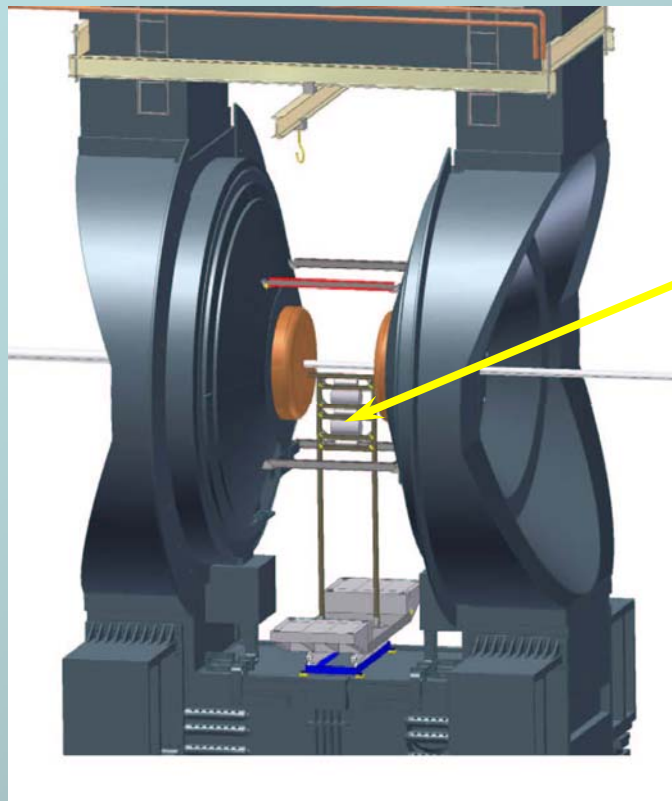
MPC electronics to be installed on top of MuTr rack on eyebrow. Electronics not ready yet. Expect by mid Feb.

**PHENIX Technical Support 2006**

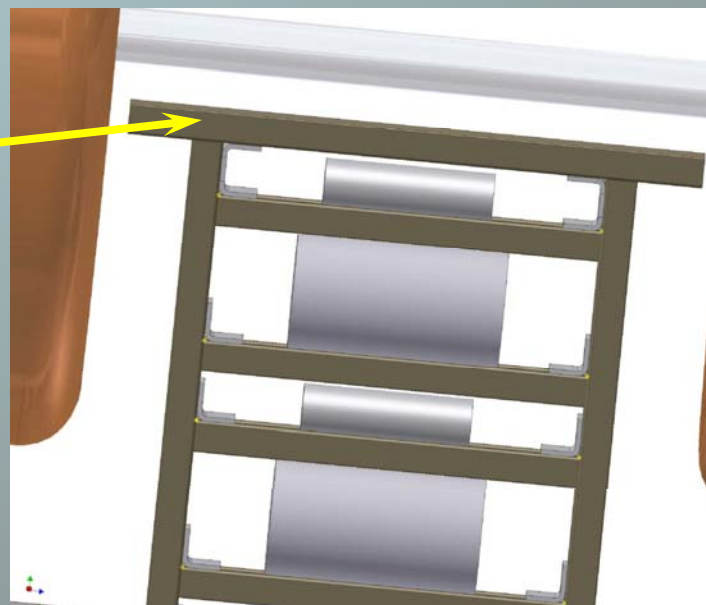
# **MPC Installation**



## Beam Loss Monitors



BLM Stand with  
BLM's and  
Chipmunks

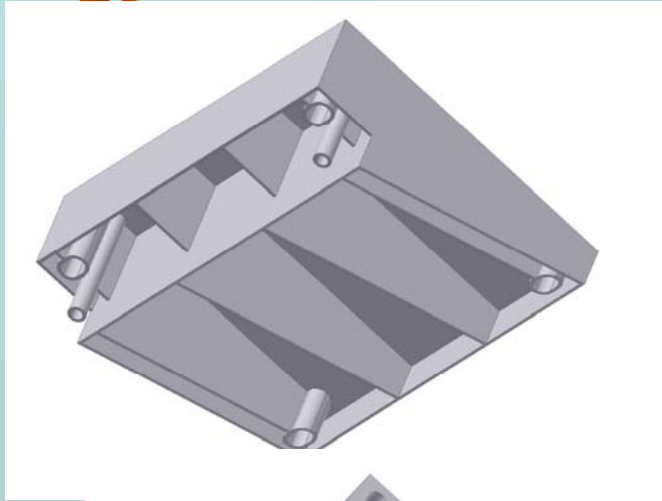




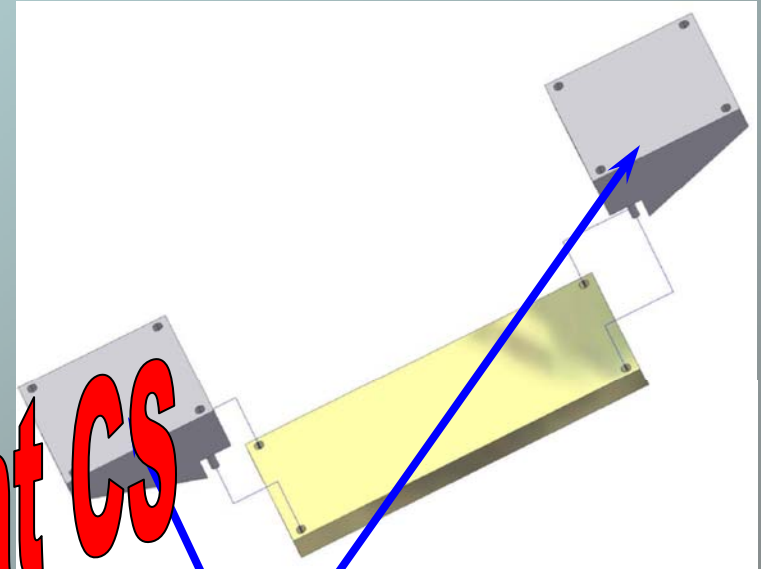
## Other Required Work

- CM lift table modification
- New Helium Bags
- Dry air system upgrade
- Conceptual design efforts in support of future detector upgrades
- Sub System Maintenance (TBD)
- Bridge Utilities

## HBD Installation/ Access



**In Fabrication at CS**



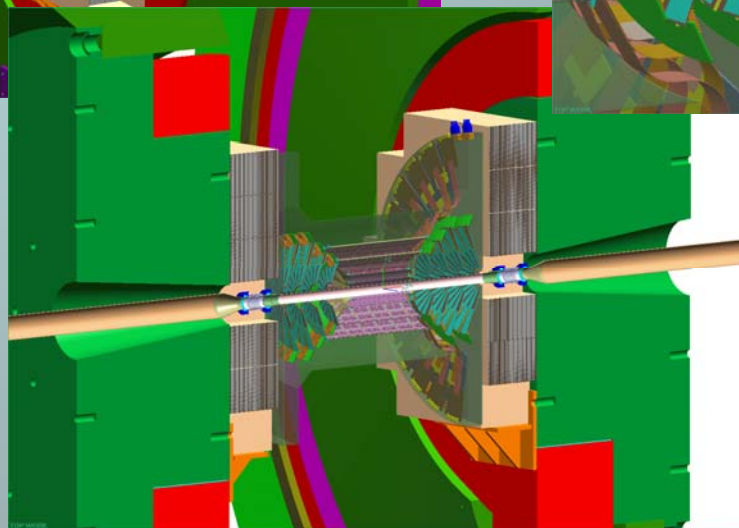
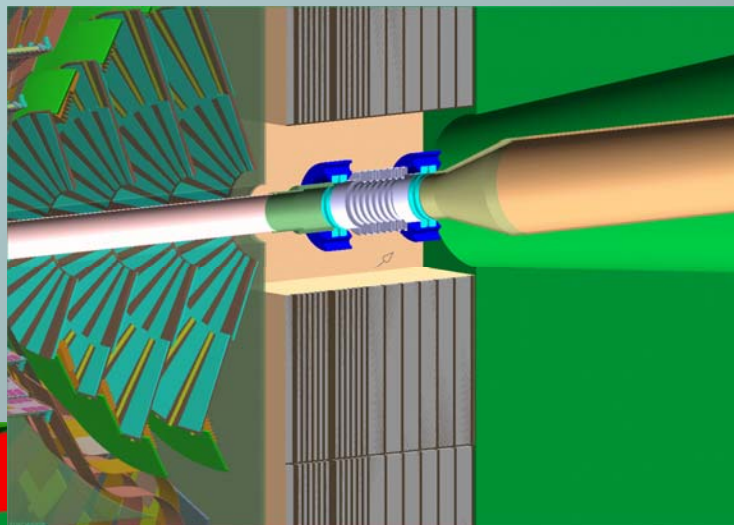
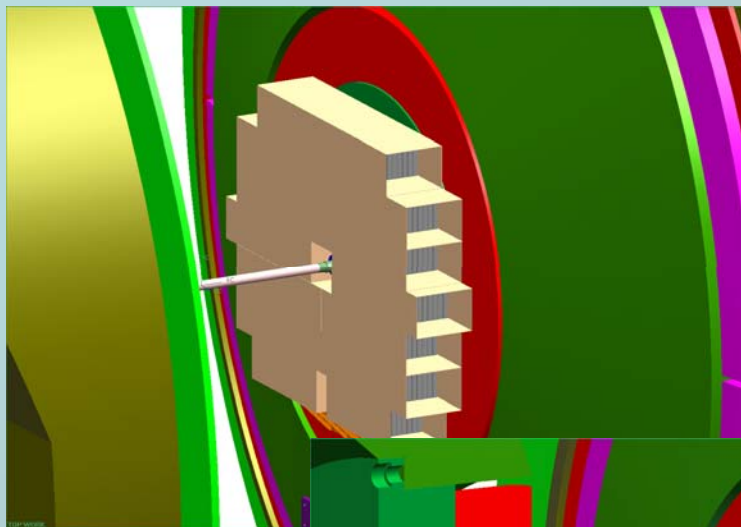
**CM scissor lift table  
Extensions  
(extends table 22" east & west;  
Steps up 8")**

## Shutdown 2006 Tasks

- CM Crane design
- Integration support work for Future Detectors (NCC, SVTX, FVTX, RPC) (New beampipe)
- CM region access stairs
- Discretionary improvements to existing equipment
  - EC: Fix/replace fibers, Noisy FEM's in DC, PC, DC water flow interlocks, TEC replace p/s and FEM's, ARCNET on fiber to all racks?
  - WC: Replace bucketless buckets in AGEL racks, noisy FEM's in DC, PC
  - MuTr & MuID: HV repair, troublesome FEM's, blue logic repairs, MUTR cosmic ray trigger with LL1?
  - E F & I: Verify installation of transient suppression in all racks, Bucket maintenance, Fan replacement, Communication testing to UVC HV mainframes, tighten connections on distribution panels, fiber repairs

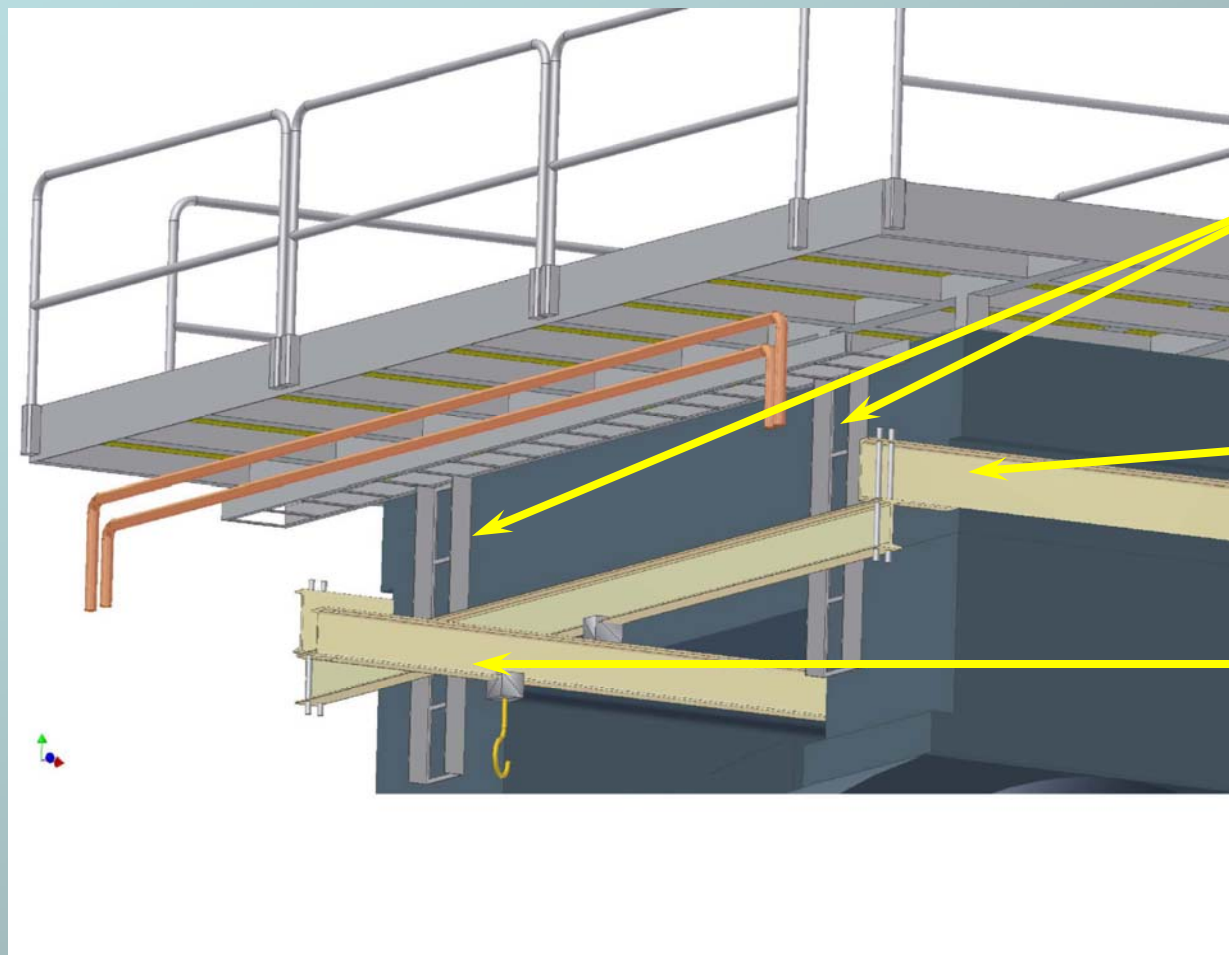


## New Beampipe for Upgrades



*A concept discussed between Jan Boissevain of LANL and D. Lynch of BNL. Requires support built in to NCC and temporary isolating support to move CM.*

# **CM Region Crane & Cable Routing Concept**



**Cable Trays  
to route  
cables NCC  
Detector from  
Bridge**

**Crane Supports  
use existing flux  
return notches**

**CM Crane north-  
south & east-west  
motions; extended  
travel east to  
existing crane  
coverage**

## CM Region Stairs



Something a  
little more  
substantial  
would be  
nice

## Additional Beneficial Work for S/D 2006

- DAQ Electronics: Replace/test GL12GTM, STTP's, blue logic trigger racks?
- Computing: Backups: test reliability, weed out unreliable hardware and servers, upgrade network
- Gas System
  - Reinstall all recalibrated mass flow controllers in gas racks
  - Rearrange regulator and flow meters for N2 on TEC and TOFW PID controllers
  - Purchase Calibration gas for TEC ethane analyzer
  - R & R TEC gas manifolds to accommodate work on pre-amp/shaper boards



### Prior to Run 6

- Prepare EC scaffolding for move to IR
- Install access platforms from EC top north and MMS
- Magnet tests (Blue sheets)
- Build Shielding wall
- Remaining blue sheets

### Postponed to Shutdown 2006

- Replace emergency fan louvres
- Rewire/add IR ceiling lights on emergency power
- Replace WC sliding platform hoisting cables
- Analyze/balance rack water distribution
- Mixing house exhaust fan maintenance

## Conservation & Housekeeping

- Energy Conservation
- Clean/organize under the tracks
- Move extra I-beams & pipe to storage
- Electronics lab (new shelves?)
- Clean & organize storage areas:
  - Assembly hall
  - Shelves near transformers
  - Trailers
  - Wire

**To Be Determined**